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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,266	03/17/2004	Teddy M. Keller	NC 96,202	4785

26384 7590 12/08/2004  
NAVAL RESEARCH LABORATORY  
ASSOCIATE COUNSEL (PATENTS)  
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4555 OVERLOOK AVENUE, S.W.  
WASHINGTON, DC 20375-5320

EXAMINER

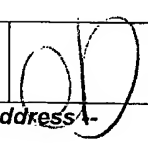
TRUONG, DUC

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/808,266	Applicant(s) KELLER ET AL.	
	Examiner Duc Truong	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-21 and 38-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-21 and 38-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-21 and 38-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al'471.

The reference discloses a thermoset (see col. 1, lines 51-52) formed by curing (see col. 4, line 43) a mixture comprising one or more bisorthodinitriles of the formula (see Abstract) wherein x is from 1 to 10, the phenyl groups are attached at the meta or para position, and if  $x=n+1$  then said formula is read on the claimed formula

The reference further discloses a process of preparing said thermoset (see col. 3, line 23 et seq.) using metals such as copper, iron, zinc, and nickel and others including stannous chloride, cuprous chloride---(see col. 3, lines 30-52).

The disclosure of the reference differs from the instant claims in that it does not disclose the claimed general formula and all reactants nor curing agents.

However, the reference does disclose specific components under conditions to form the same or similar products of the claimed formula. Therefore, it would have been obvious to one of ordinary skill in the art to select reactants under conditions to form the products of the claimed formula since they have been shown to be effective in a similar

system and thus would have been expected to provide adequate results. There is no showing of unexpected results derived from said selections.

Claims 47-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller'760 or '926.

The references disclose a process of polymerization of oligomeric multiple aromatic ether containing phthalonitriles by reacting an excess amount of bis dihydroxyaryl compound with a dihaloaromatic in the presence of a base (see col. 1, lines 65 et seq. of '760; col. 2, line 1 et seq. of '926) such as potassium carbonate (see col. 3, line 61 of '760; col. 3, line 65 of '926) and a copper compound (see col. 6, line 48 et seq. of '760; col. 6, line 41 et seq. of '926) in the presence of a curing agent (see col. 5, lines 43-64 of '760; col. 5, lines 42-end), and then reacts with 4-nitrophthalonitrile to form an oligomer based phthalonitrile (see Abstract).

The disclosures of the references differ from the instant claims in that they do not disclose all of reactants nor specific curing agents.

However, the references do disclose specific components under conditions to form the same or similar products. Therefore, it would have been obvious to one of ordinary skill in the art to select reactants under conditions from the references within the limitations of the claimed process to form the same products in the absence of a showing of unexpected results derived from said use.

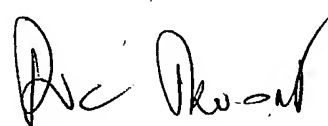
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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DUCTRUONG  
PRIMARY EXAMINER